USB Multi- Channel Audio Converter
User Manual

UDA-501

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Introduction

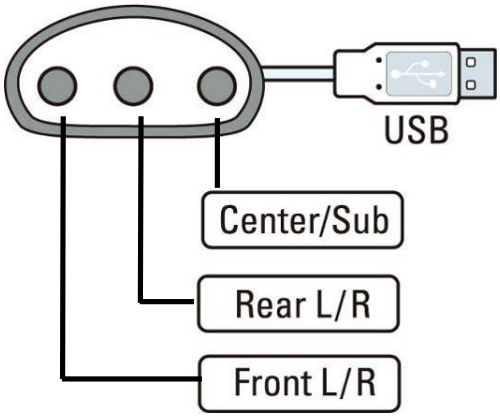
This product adopts PCM (Pulse-Code Modulation) sampling technology to digitize audio analog signals. It receives audio stream from PC via USB interface and transmits audio data according to the consumer interface standards in digital playback mode.
It enable USB HID (Human Interface Device) to work, and provide what the source offer in. 2.1 or 5.1 channel audio to Listen CD or on-line music, enjoy DVD movies or concerts as well as watching TV programs will be most suitable by using this adapter.

Features

- Compliant with USB specification V1.1
- USB audio device class spec. 1.0 and USB HID class spec. 1.1 compliant
- USB remote wake-up support
- Support 48 / 44.1 KHz sampling rate for playback
- Plug-and-play operation with Windows OS XP / Vista / 7 / 8 & Mac OS 10.X above
- Supports 5.1 channels for analog playback in the analog playback mode
- LED indication for power-on (red) and operation (green)

Specification:

Model No.		UDA-501
Chip		C-MEDIA
Data Speed		1.5 / 12 Mbps
Connector	Upstream	USB Type A Male
	Device	Audio Output Jack x 3
Cable		1m
Power Mode		Bus
Housing		Plastic
Dimension (L x W x H)		73 x 52 x 23 mm



1. Installing the Software of UDA-501 for Vista / 7 / 8

Ensure that you have plug-in the UDA-501 Device before installing USB Multi-Channel Audio Device driver. Otherwise, driver installation error may occur.

✧ If UDA-501 USB Multi-Channel Audio Device is not plug-in. You will see follow dialog.

1.1 Installation

✧ Insert C-Media UDA-501 USB Multi-Channel Audio Device driver CD. Double click the setup.exe file if auto run is disabled. Press “Cancel” if you want to quit installation.

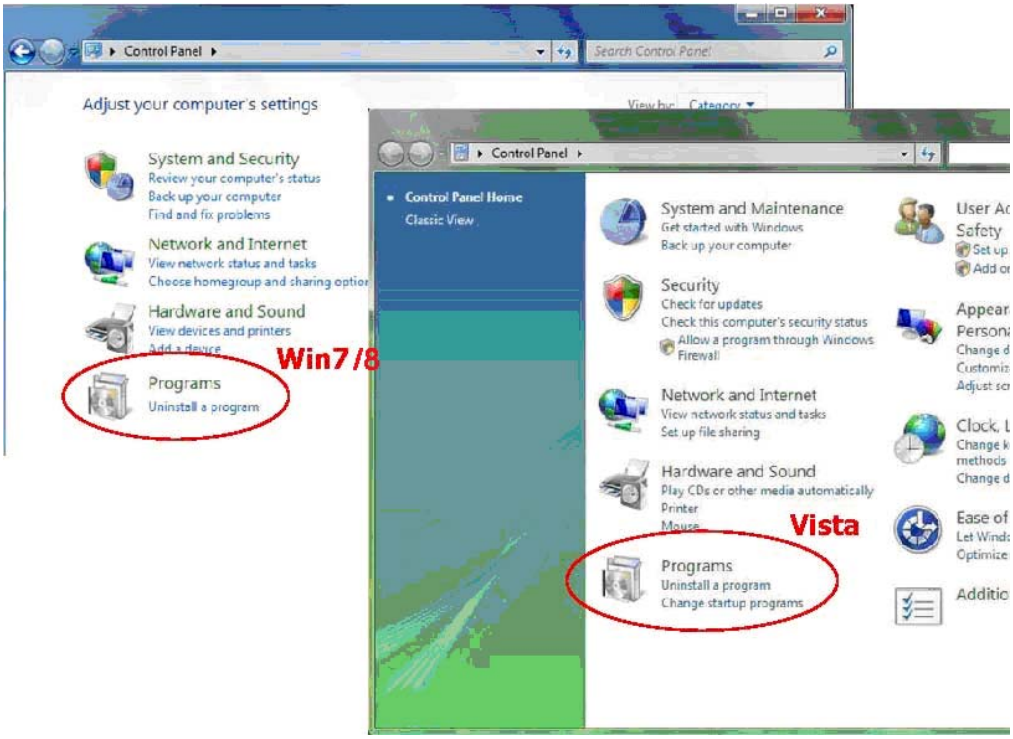
✧ Start Driver installing, please press “Next” button to next step as following diagram.

✧ Install complete. It is recommended that you restart your computer.

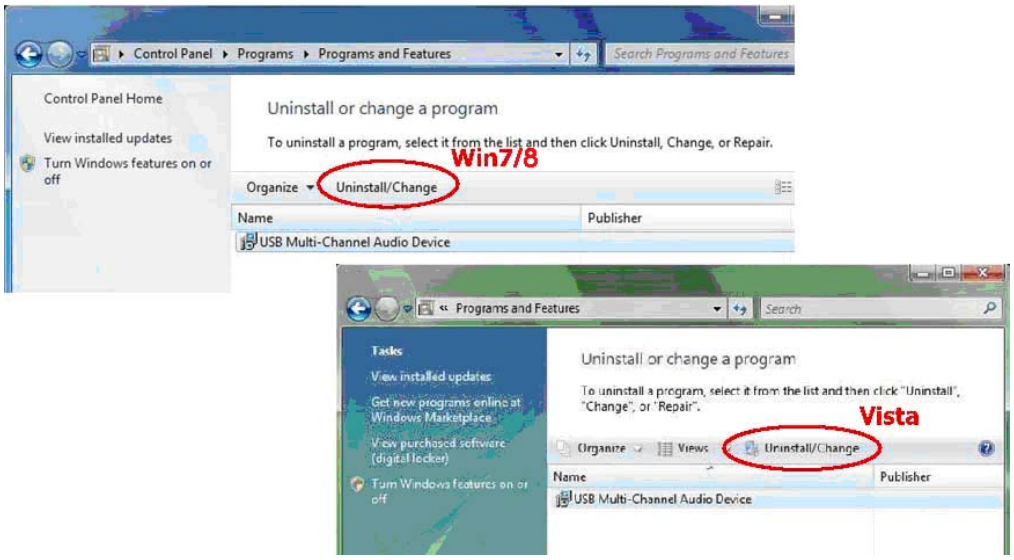
USB Multi-Channel Audio Device
Installation is complete. You must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Finish

1.2 Un-Installation

✧ Double click the “Programs/Uninstall a program” item from Windows Control Panel.



✧ Select “USB Multi-Channel Audio Device” item, and then click “Uninstall/Change” button.



✧ Start uninstalling process.

✧ Uninstall driver successfully, it is recommend restarting your computer to completely remove driver.

USB Multi-Channel Audio Device
USB Multi-Channel Audio Device driver successfully uninstalled.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Finish

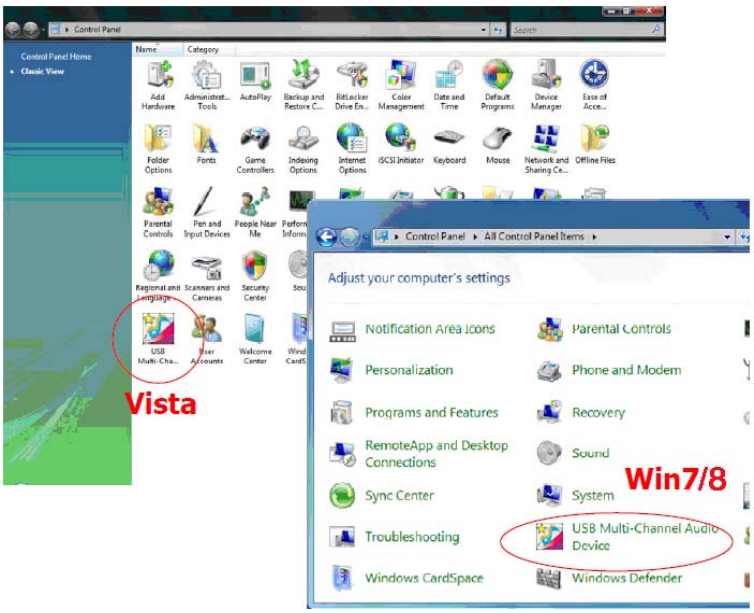
2. Audio Control Panel (CPL) Introduction

2.0 Open UDA-501 USB Audio Device Software CPL

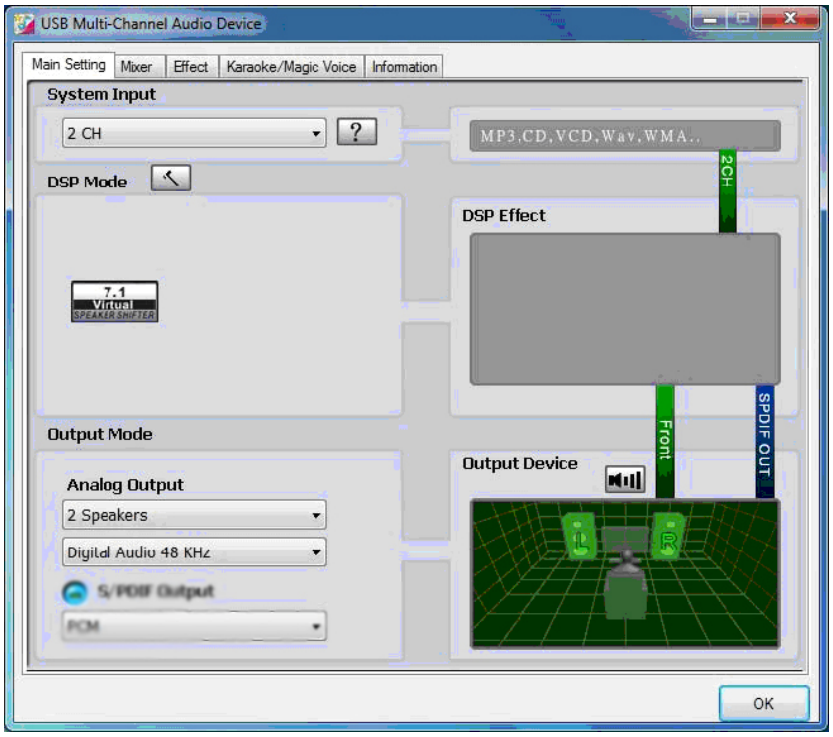
After the driver installing and rebooting, you will find the UDA-501 USB Multi-Channel Audio Device software CPL icon on the system tray bar.

✧ You are able to open the CPL by double-clicking on the icon as following diagram.

✧ If the tray icon does not appear in your system tray, please go to the Windows control panel and double click the “USB Multi-Channel Audio Device” CPL icon to open it.

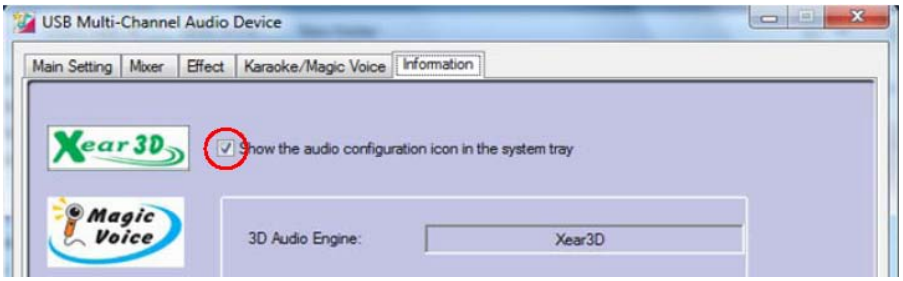


✧ The USB Multi-Channel Audio Device control panel will appear as below diagram.



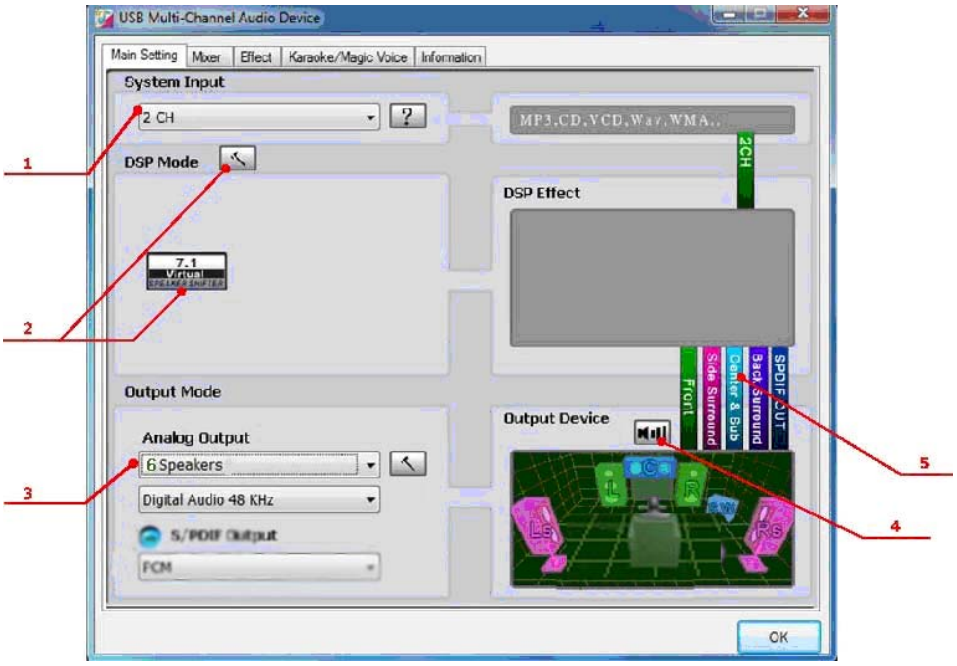
✧ How to make CPL icon visible in the system tray?

1. Open UDA-501 USB Multi-Channel Audio Device software control panel.
2. Go to “Information” page.
3. Check “Show the audio configuration icon in the system tray.”



2.1 “Main Setting” Page Function Introduction

You can control the USB Audio various playback device configuration as below diagram.



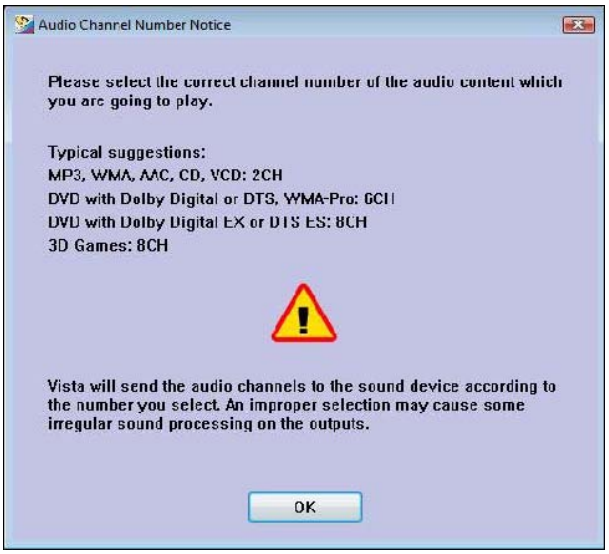
1. System Input selector.
2. Analog Output –DSP Mode.
3. Analog Output – Speaker Configuration
4. Analog Output – Digital Volume control
5. Audio System Status Bar

2.1.1 System Input Device Options (For Vista / 7 / 8)

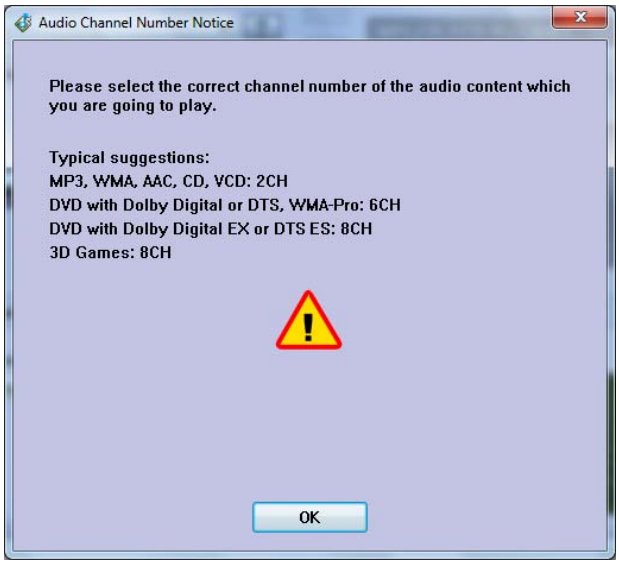
The System Input option is to select the correct channel number for the audio content which you are going to play in order to have a precise audio output.

Users can have a better concept by clicking the Information icon ( ), and refer to below dialog windows.

For Vista

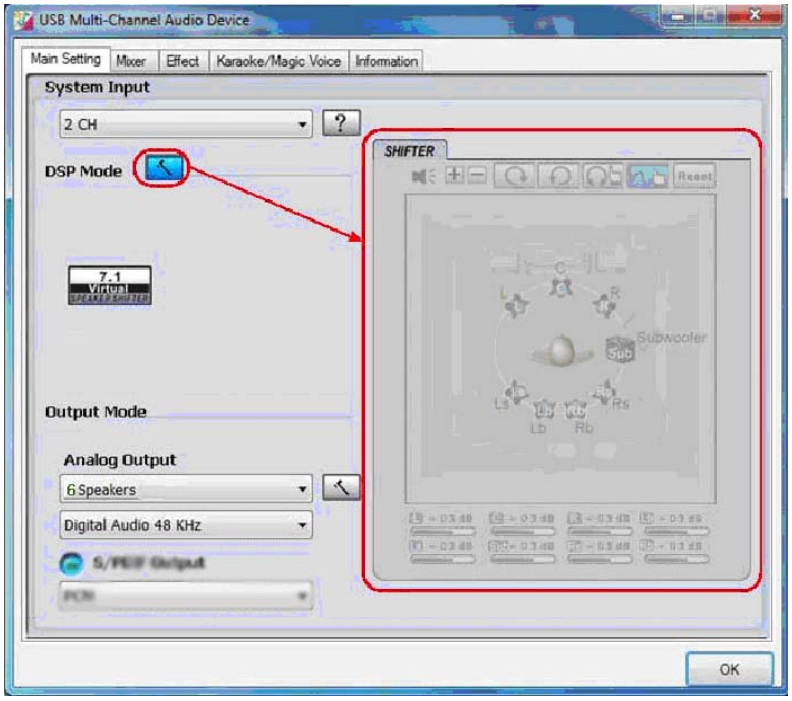

Audio Channel Number Notice
Please select the correct channel number of the audio content which you are going to play.
Typical suggestions:
MP3, WMA, AAC, CD, VCD: 2CH
DVD with Dolby Digital or DTS, WMA-Pro: 6CH
DVD with Dolby Digital EX or DTS ES: 8CH
3D Games: 8CH
Vista will send the audio channels to the sound device according to the number you select. An improper selection may cause some irregular sound processing on the outputs.
OK

For Win7/8

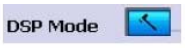

Audio Channel Number Notice
Please select the correct channel number of the audio content which you are going to play.
Typical suggestions:
MP3, WMA, AAC, CD, VCD: 2CH
DVD with Dolby Digital or DTS, WMA-Pro: 6CH
DVD with Dolby Digital EX or DTS ES: 8CH
3D Games: 8CH
OK

2.1.2 Analog Output - DSP Mode

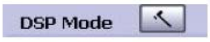
UDA-501 USB Multi-Channel Audio Device Driver provides a DSP mode. The button ( ) allows users switch DSP Effect Advanced Setting on or off. When the DSP Mode is turned on, users can see the DSP working layout on the right.

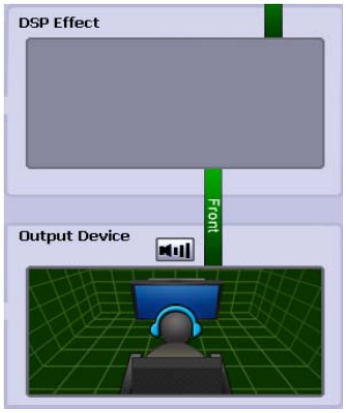


When the DSP Mode is turned on, users can see the DSP working layout. When the DSP Mode is off, the standard speaker test mode will be resumed.



DSP mode turned ON

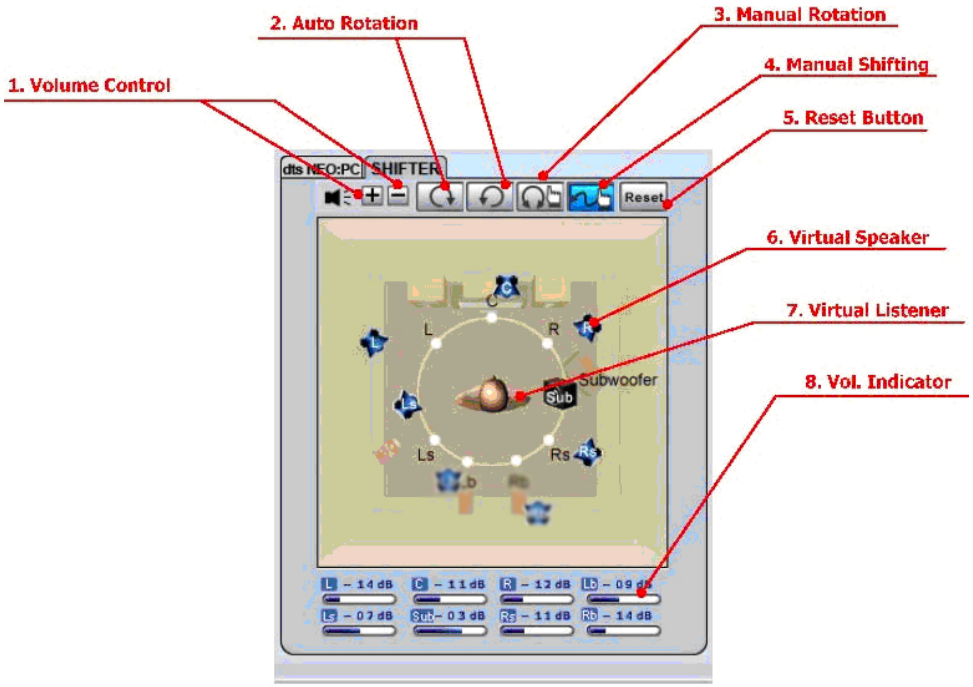




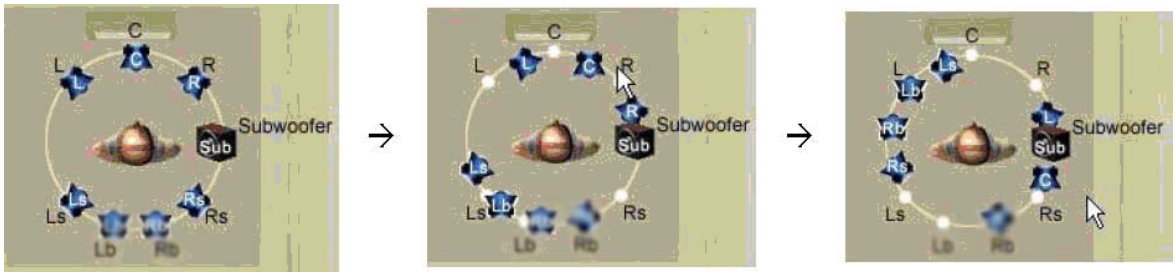
DSP Mode turned OFF

When the DSP Mode is turned on, click the button (

) to enable the DSP Effect as below diagram.



1. Volume Control:
   Increase / decrease the volume of all channels by 1 dB for one step. (+4dB~-17dB)
2. Auto Rotation Mode:
   The virtual speakers rotate clockwise or counterclockwise slowly. For example, if clockwise is selected:

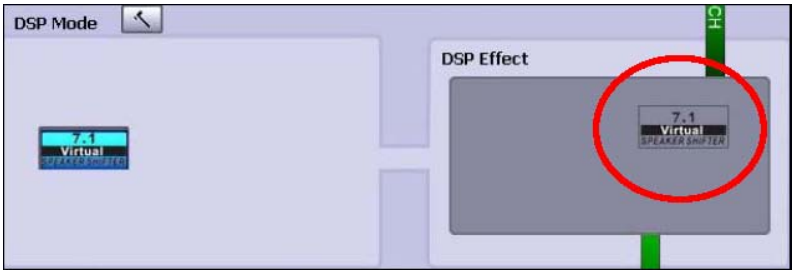


T=0 T=0.25 sec T= 1 sec

3. Manually Rotation Mode:
   Use mouse to rotate the virtual speakers on the screen manually.
4. Manual Shifting (Free Moving Mode): Use pointer and click-and-drag to move the location of individual virtual speakers.
5. Reset:
   Reset the location of virtual speakers / virtual listener to default.
6. Virtual Speaker:
   Each virtual speaker virtualizes one channel of the 5.1 channel speakers in the real world.
7. Virtual Listener:
   The virtual listener virtualizes your position.
8. Volume indicator:
   Indicate value for each channel.

When the DSP Mode is turned on, click the button (

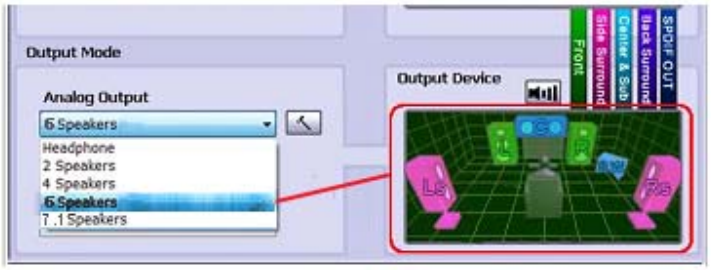
) to enable the DSP Effect. The effect icon will be displayed in the DSP Effect section to the right.



2.1.3 Analog Output – Speaker Configuration and Sound Testing

UDA-501 USB Multi-Channel Audio Device support 5.1CH analog output.

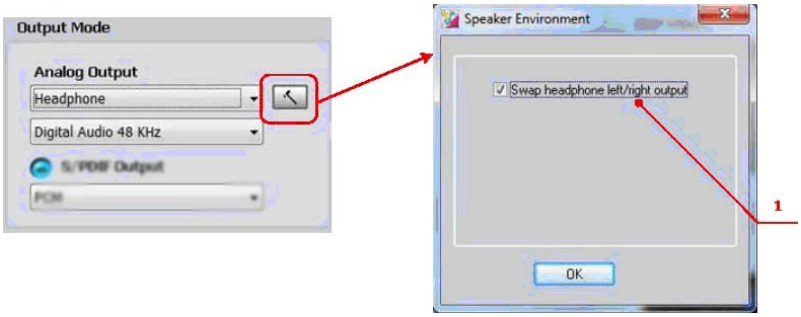
Drags the Analog Output list to set the Speaker configuration (2/4/6/8 Speakers) or Headphone, and the Home Theater Diagram will auto change the speaker number.



Click the Advanced settings button (
) to set the advanced speaker setting.

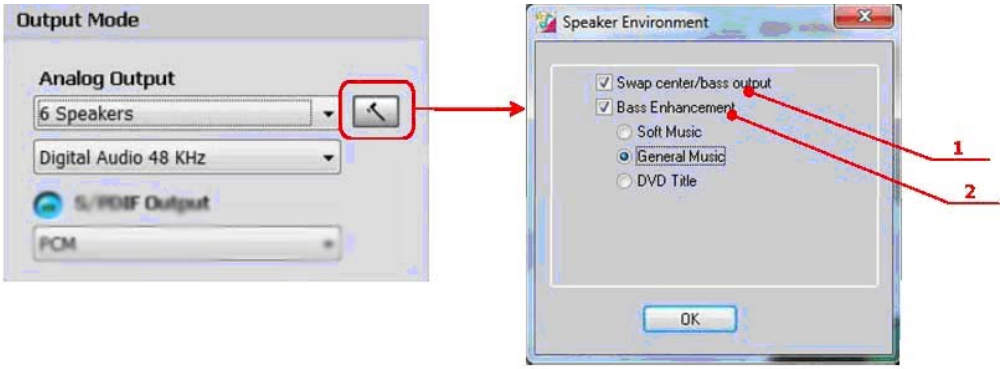
✧ Advanced settings – Headphone

1. output Swap headphone left/right output



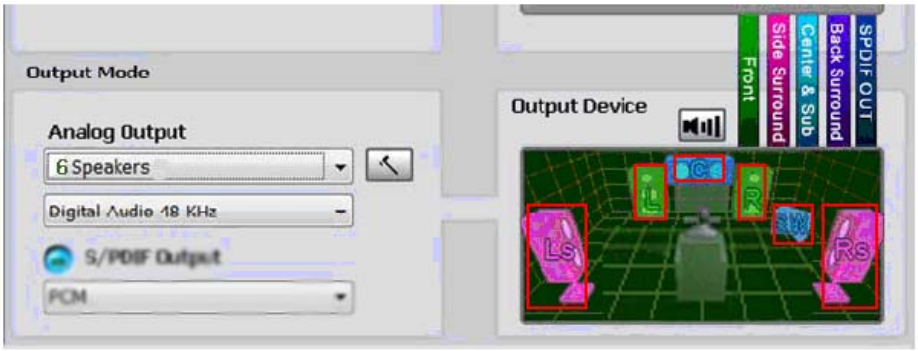
✧ Advanced settings – 6 Speakers configuration

1. Swap center/bass output
2. Bass Enhancement – According to the media content type, user can choose the optimization Bass Enhancement type such as “Soft Music”, “General Music” and “DVD Title”.



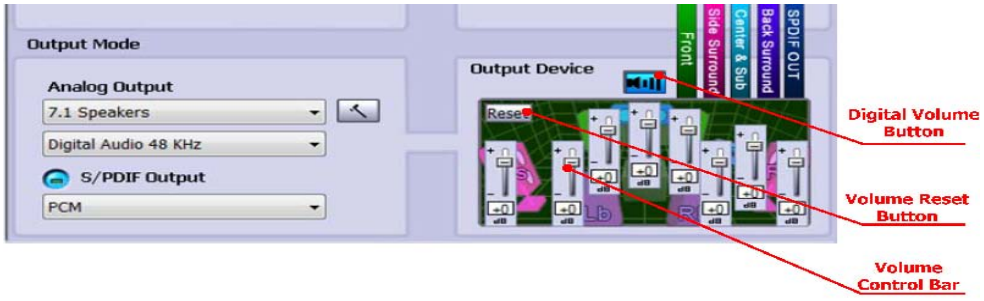
After the Speaker number setting, user can testing all the output sound for each channels whatever the Home Theater type is.

✧ Manual Speaker Testing:
Click the single speaker diagram to test speaker output sound by manual.



2.1.4 Analog Output – Volume Control

UDA-501 USB Multi-Channel Audio Device CPL provides the volume control function, Click the "Digital Volume" Button ( ) to enable the volume control bar as following diagram.



✧ Volume Control Bar:
Use the volume control bar to adjust sound value for individual speaker.

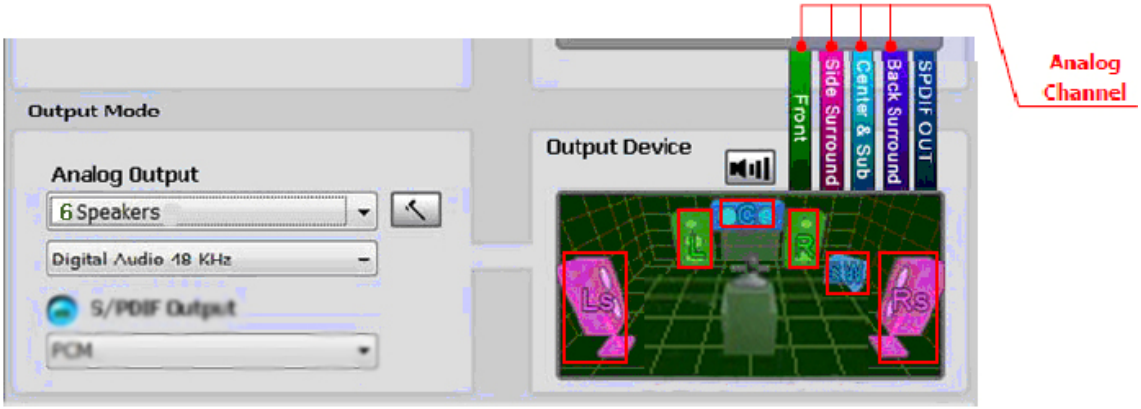
✧ Volume Reset Button:

Click the “Reset” Button to return all speaker sound value to default setting.

2.1.5 Audio System Status Bar

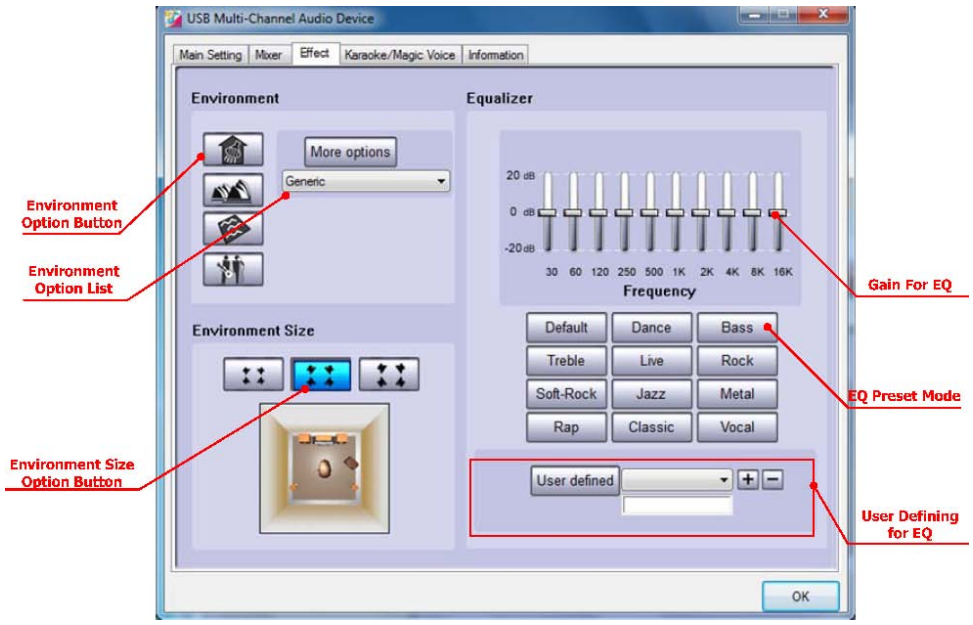
UDA-501 USB Multi-Channel Audio Device CPL provides a status Bar to indicate the Audio system status.

✧ Analog Channel – Indicate the audio system status of Analog Output.



2.2 “Effect” Page Function Introduction

The features in this page provide various sound effects.



✧ Environment

Select an “Environment option button” or “Environment option List” for emulation that is implemented by producing the sound reflection and reverberation.

✧ Environment Size

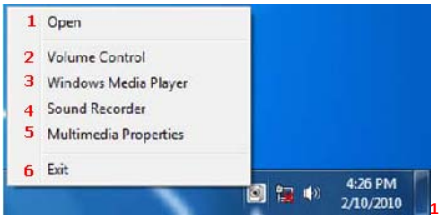
You can change the “Environment Size Button” to simulate a larger or smaller space (Default is Medium). You feel the changes of space.

✧ Equalizer (EQ) 10-Band

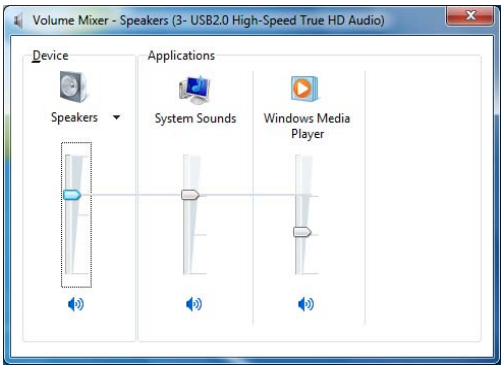
Select a pre-set mode for equalizer that is designed accordingly. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc. You can change the gain setting for each band and then give it a name in the following blank. Click “+” to add your new setting into the “User Defined” list. Click “-” to delete settings.

2.3 “Tray Icon” Function Introduction

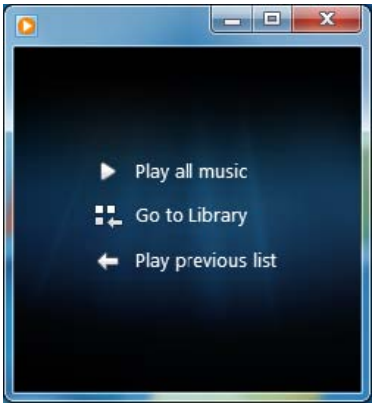
Open the “CPL Tray Icon Function List” by right-clicking on the tray Icon on system tray.



1. Open:
   When click the “Open” item, will restore the USB Audio Software CPL.
2. Volume Mixer:
   When click the “Volume Control” item, will open the Volume Mixer of Windows OS, if you want to separately control the volume of your speakers and other sound devices or programs using this Volume Mixer.



3. Windows Media Player:
   When click the “Windows Media Player” item, will open the Microsoft Windows Media Player.

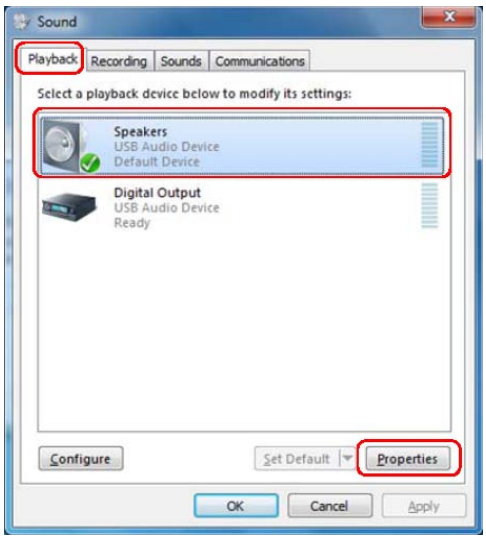


4 Multimedia Properties:

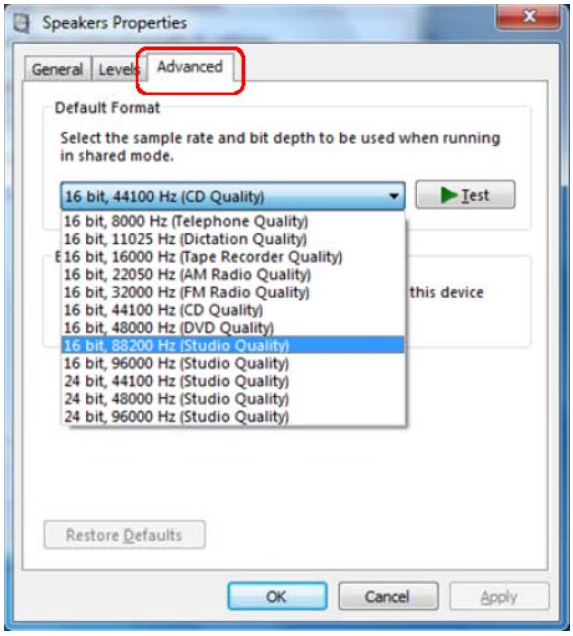
Open the multimedia properties page of Windows OS, you can select the working sample rate & bit rate on the property page.

✧ Playback

I. Select the “Speakers” device and then click the “properties” button.



II. Click the tag of “Advanced”, enter the advanced page, and click the drop down list to open default format support list as below diagram.


Speakers Properties
General
Levels
Advanced
Default Format
Select the sample rate and bit depth to be used when running in shared mode.
16 bit, 44100 Hz (CD Quality)
Test
16 bit, 8000 Hz (Telephone Quality)
16 bit, 11025 Hz (Dictation Quality)
16 bit, 16000 Hz (Tape Recorder Quality)
16 bit, 22050 Hz (AM Radio Quality)
16 bit, 32000 Hz (FM Radio Quality)
16 bit, 44100 Hz (CD Quality)
16 bit, 48000 Hz (DVD Quality)
16 bit, 88200 Hz (Studio Quality)
16 bit, 96000 Hz (Studio Quality)
24 bit, 44100 Hz (Studio Quality)
24 bit, 48000 Hz (Studio Quality)
24 bit, 96000 Hz (Studio Quality)
this device
Restore Defaults
OK
Cancel
Apply

III. Please follow the same step to change the sample rate & bit rate for “Digital-Output” device or other playback device.

6. Exit: When click the “Exit” item, will exit the tray Icon from system tray.

3. Installing the Software of UDA-501 (for XP)

Ensure that you have plug-in the USB audio card before installing UDA-501 USB Multi-Channel Audio Device driver. Otherwise, driver installation error may occur.

✧ Please make sure your UDA-501 USB Multi-Channel Audio Device is plug-in. Otherwise you will see follow dialog.

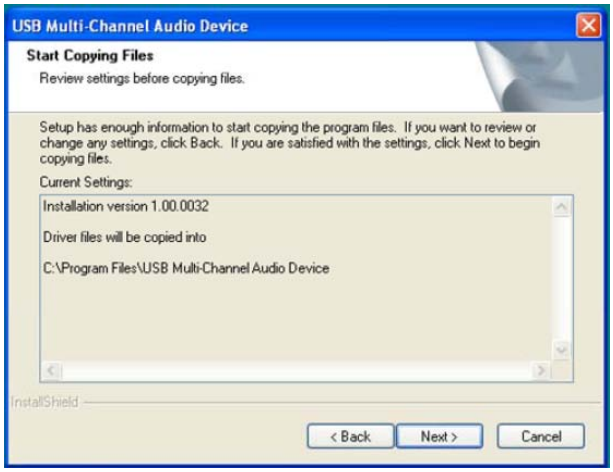
3.1 Installation

✧ Insert C-Media UDA-501 USB Multi-Channel Audio Device driver CD. Double click the setup.exe file if auto run is disabled. Press “Cancel” if you want to quit installation.

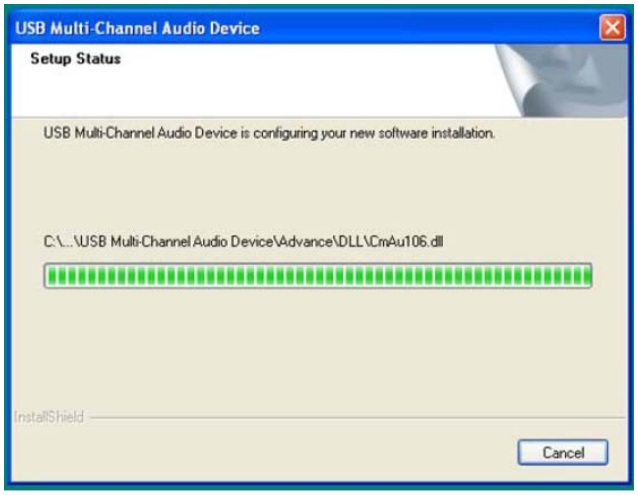
✧ Start Driver installing, please press “Next” button to next step as following diagram.

USB Multi-Channel Audio Device
Welcome to the InstallShield Wizard for USB Multi-Channel Audio Device
The InstallShield® Wizard will install USB Multi-Channel Audio Device on your computer. To continue, click Next.
< Back
Next >
Cancel

✧ Please press “Next” button to next step as following diagram.


USB Multi-Channel Audio Device
Start Copying Files
Review settings before copying files.
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Installation version 1.00.0032
Driver files will be copied into
C:\Program Files\USB Multi-Channel Audio Device
InstallShield
< Back
Next >
Cancel

✧ Install Program will automatic run following processes.

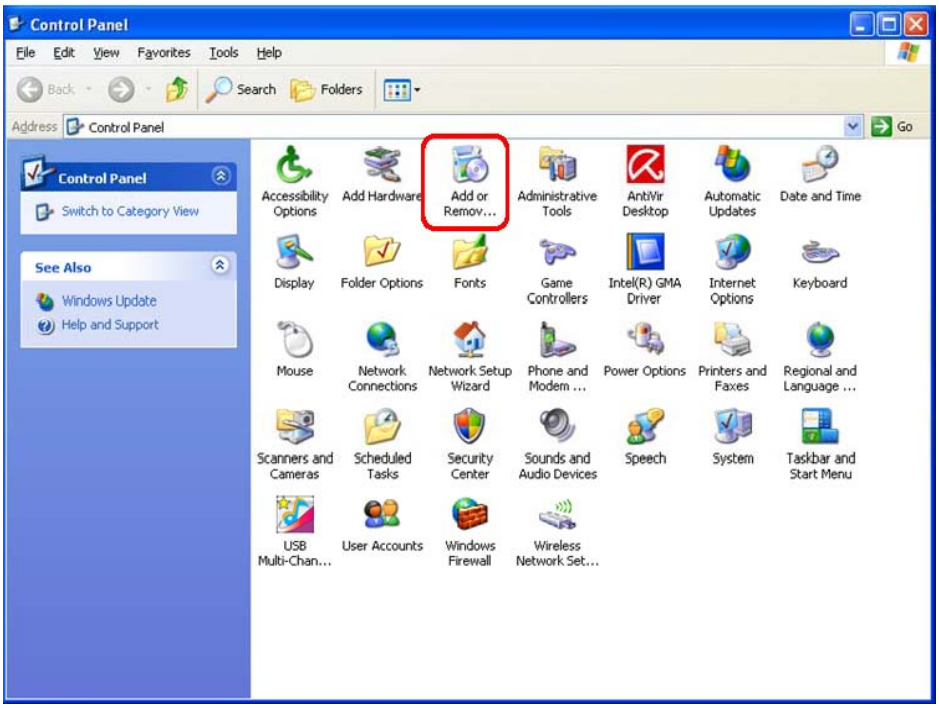


✧ Install complete. It is recommended that you restart your computer.

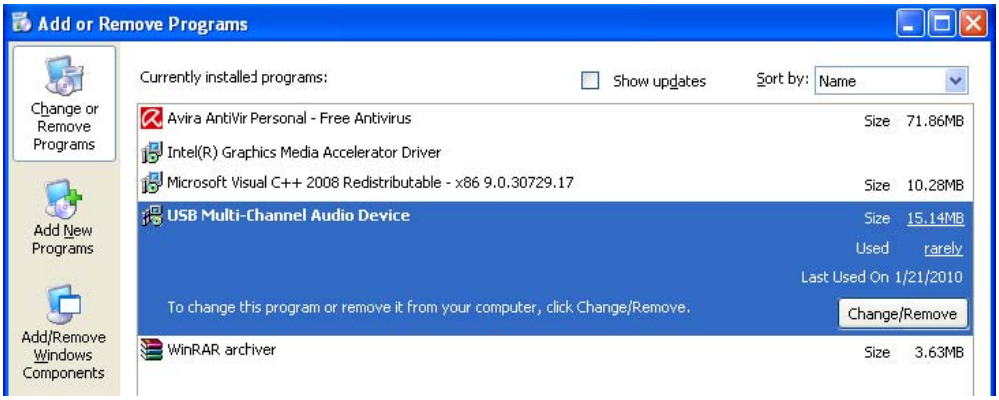
USB Multi-Channel Audio Device
Installation is complete. You must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Finish

3.2 Un-Installation

✧ Double click “Add or Remove Programs” icon from Windows XP Control Panel.



✧ Select “USB Multi-Channel Audio Device” item, and then click “Change/Remove” button.



✧ Please press “OK” button to Uninstall C-Media UDA-501 USB Multi-Channel Audio Device driver

✧ Uninstall driver successfully, it is recommend restarting your computer to completely remove driver.

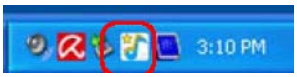
USB Multi-Channel Audio Device
USB Multi-Channel Audio Device driver was successfully uninstalled.
To complete the uninstall process, Windows needs to restart.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Finish

4. Driver Control Panel (CPL) Introduction For XP

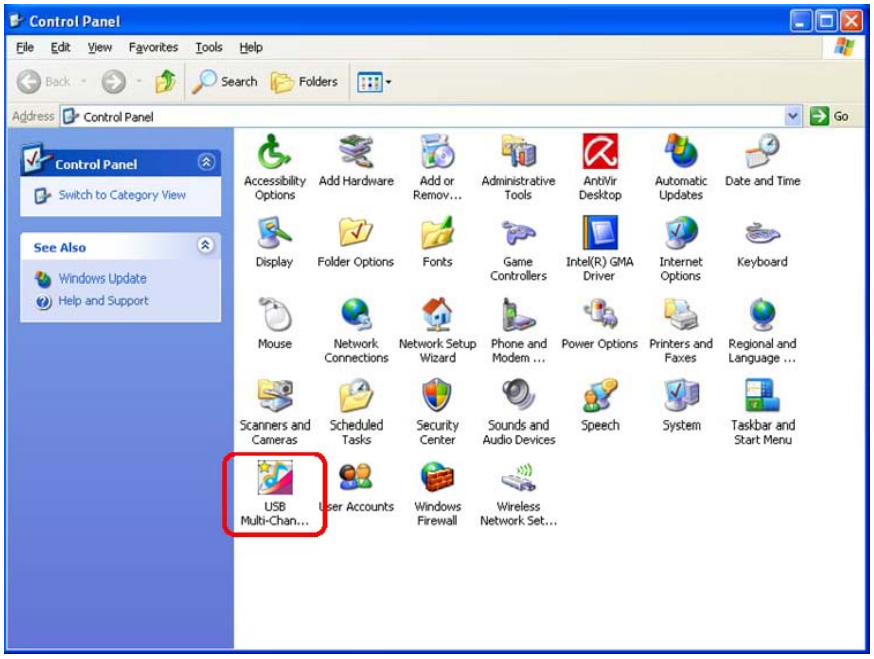
4.0. Open UDA-501 USB Audio Device Software CPL

After the driver installing and rebooting, you will find the UDA-501 USB Multi-Channel Audio Device software CPL icon on the system tray bar.

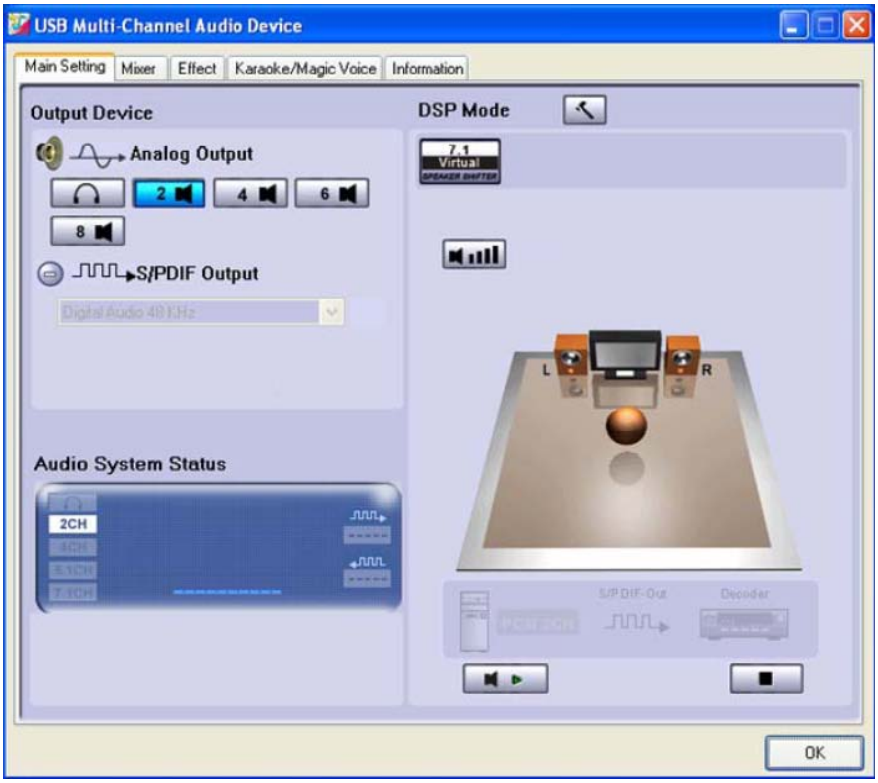
✧ You are able to open the CPL by double-clicking on the icon as following diagram.



✧ If the tray icon does not appear in your system tray, please go to the Windows XP control panel and double click the “USB Multi-Channel Audio Device” CPL icon to open it.

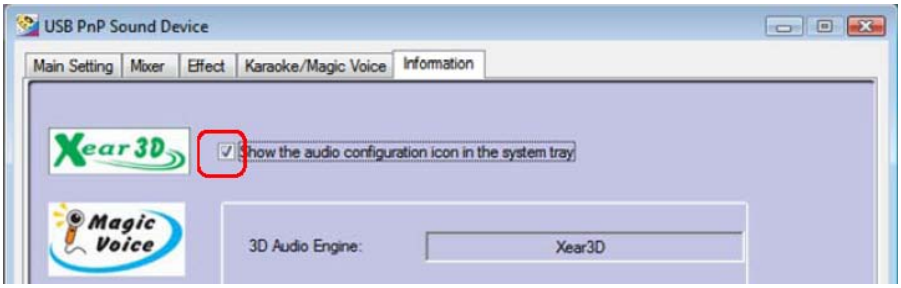


✧ The USB Multi-Channel Audio Device CPL will appear as below diagram.



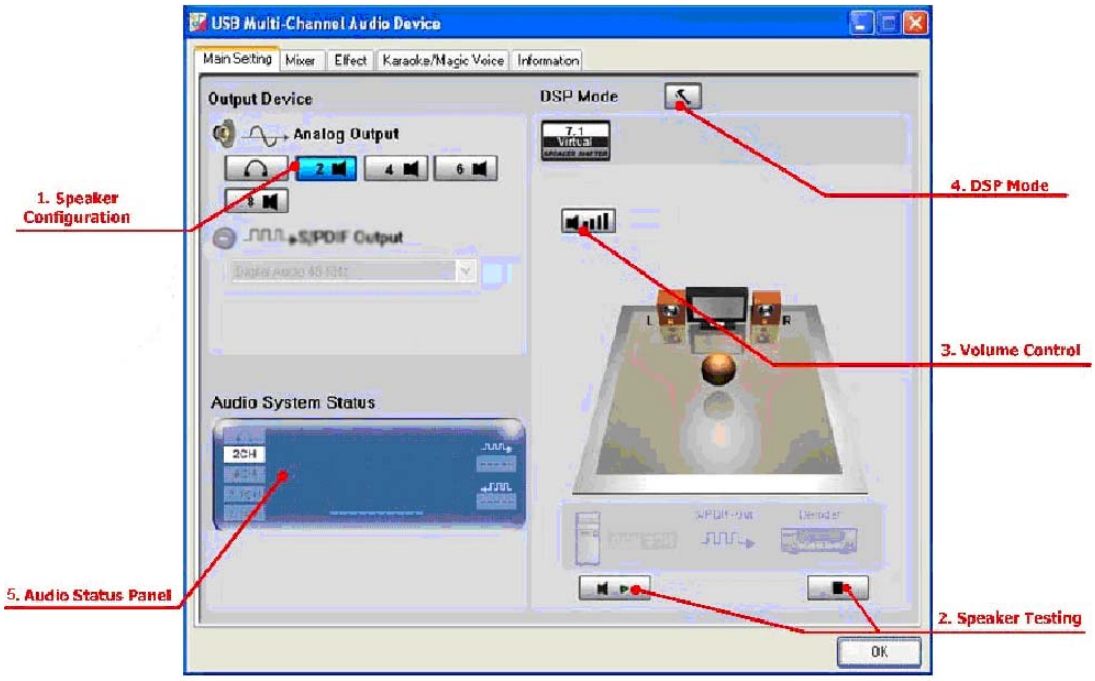
✧ How to make CPL icon visible in the system tray?

1. Open UDA-501 USB Multi-Channel Audio Device software control panel.
2. Go to “Information” page.
3. Check “Show the audio configuration icon in the system tray.”



4.1 “Main Setting” Page Function Introduction

You can control the USB Audio various playback device configuration as below diagram.

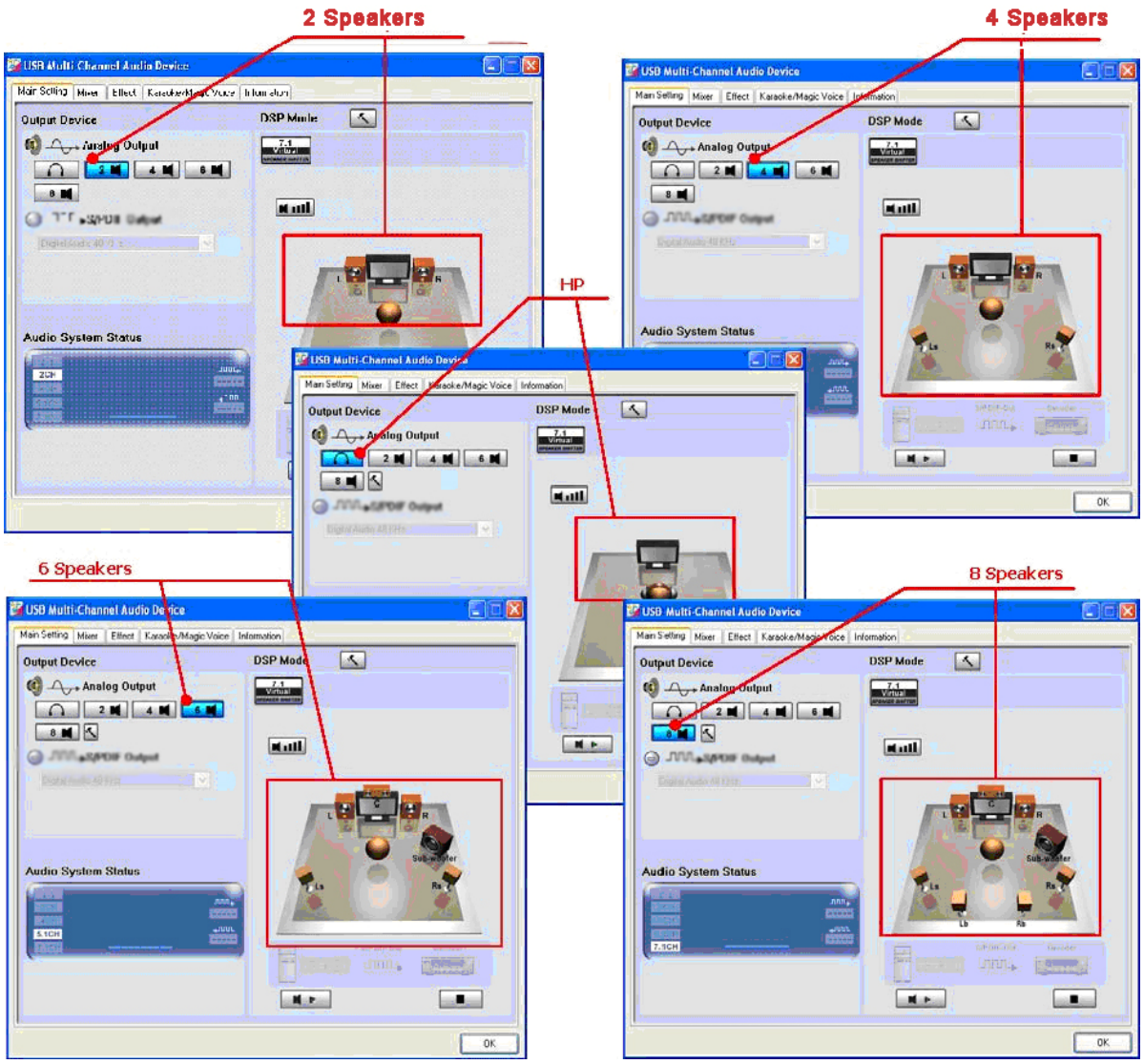


1. Analog Output - Speaker Configuration.
2. Analog Output – Speaker Testing.
3. Analog Output – Volume Control.
4. Analog Output – DSP Mode.
5. Display – Audio System Status.

4.1.1 Analog Output - Speaker Configuration

UDA-501 USB Multi-Channel Audio Device support 7.1CH analog output.

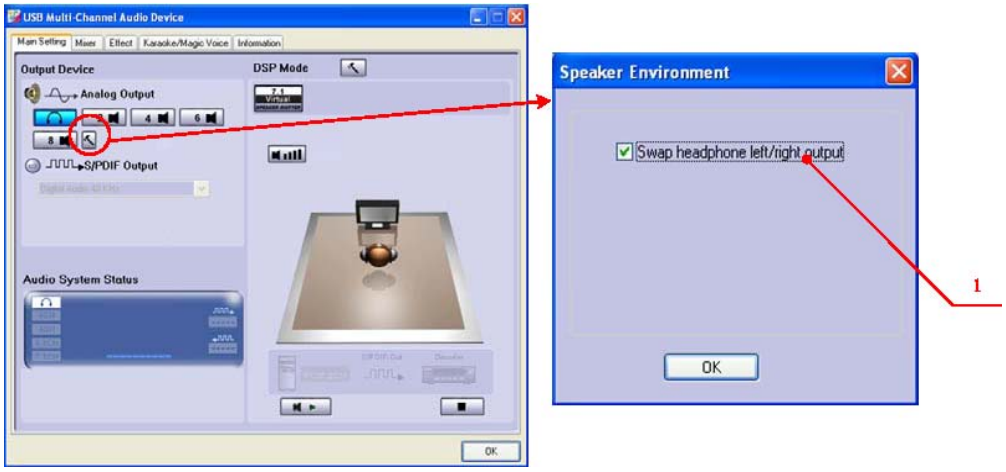
✧ Click Speaker configuration button (HP/2CH/4CH/6CH/8CH) to set the Speaker Channel or Headphone, and the Home Theater Diagram will auto change the speaker number.



✧ Click the Advanced settings button ( ) to set the advanced speaker setting.

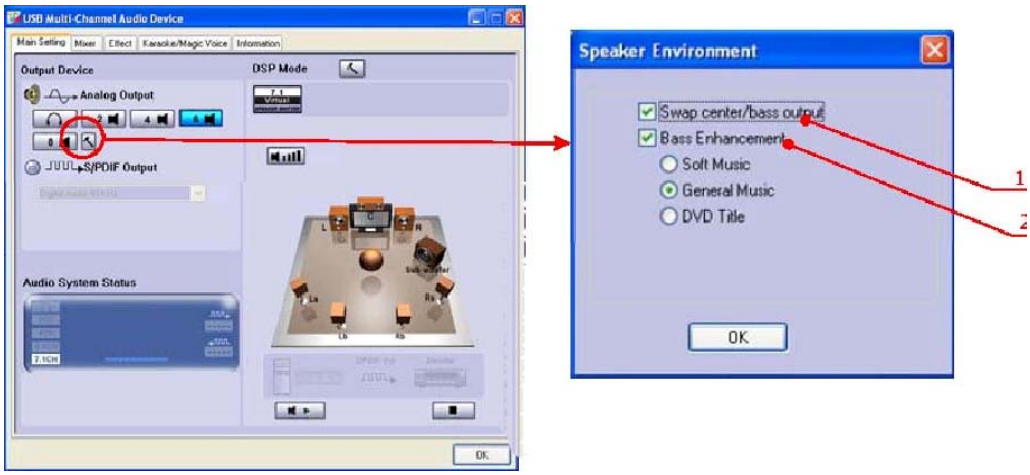
✓ Advanced settings – Headphone

1. Swap headphone left/right output



✓ Advanced settings – 6CH Speaker configuration

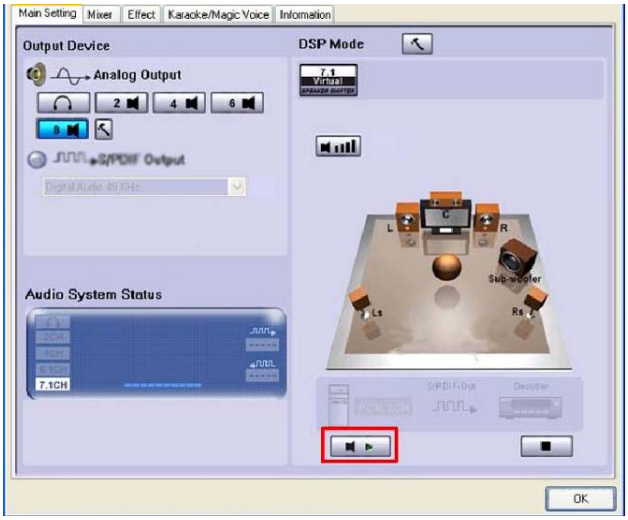
1. Swap center/bass output
2. Bass Enhancement – According to the media content type, you can choose the optimization Bass Enhancement type such as “Soft Music”, “General Music” and “DVD Title”.



4.1.2 Analog Output – Speaker Testing

After the Speaker number setting, you can testing all the output sound for each channels whatever the Home Theater type is.

1. Automatic Speaker Testing:
   Click the auto testing button ( ), CPL will auto testing every speaker in turn.

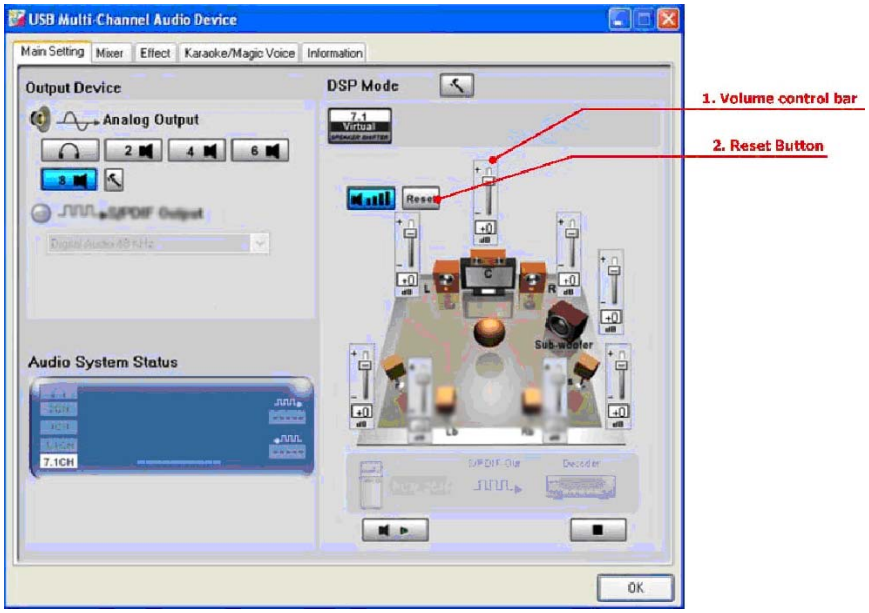


2. Manual Speaker Testing:
   Click the single speaker diagram to test speaker output sound by manual.

4.1.3 Analog Output – Volume Control

UDA-501 USB Multi-Channel Audio Device CPL provides the volume control function, Click the “Digital Volume” Button ( ) to enable the volume control bar as following diagram.

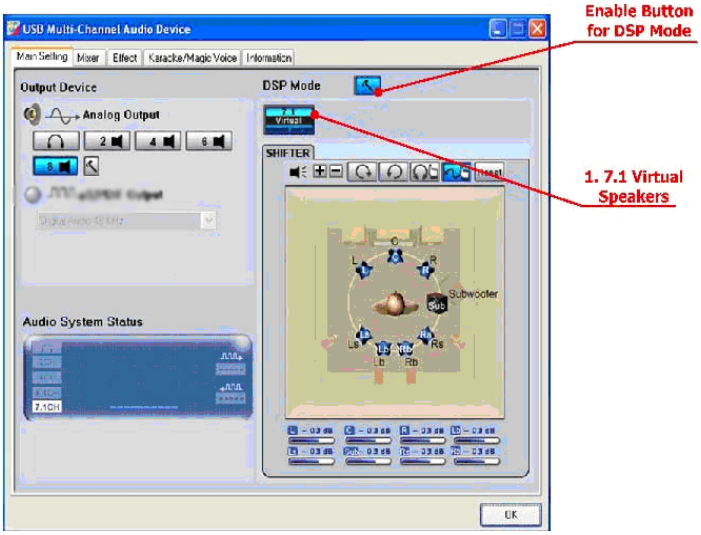
1. Volume Control Bar: Use the volume control bar to adjust sound value for individual speaker.
2. Reset Button: Click the “Reset” Button to return all speaker sound value to default setting.



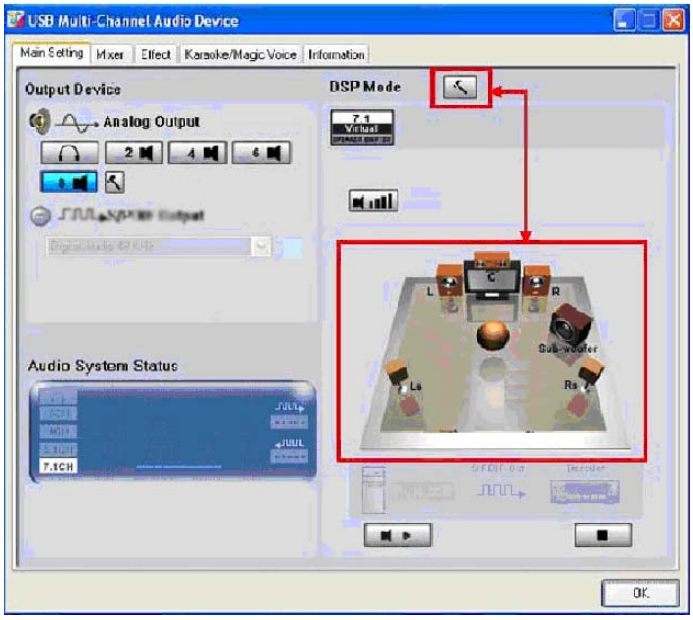
4.1.4 Analog Output - DSP Mode

UDA-501 USB Multi-Channel Audio Device CPL provides a DSP mode.

✧ The button ( ) allows users switch DSP Effect Advanced Setting on or off. When the DSP Mode is turned on, users can see the DSP working layout to the right.

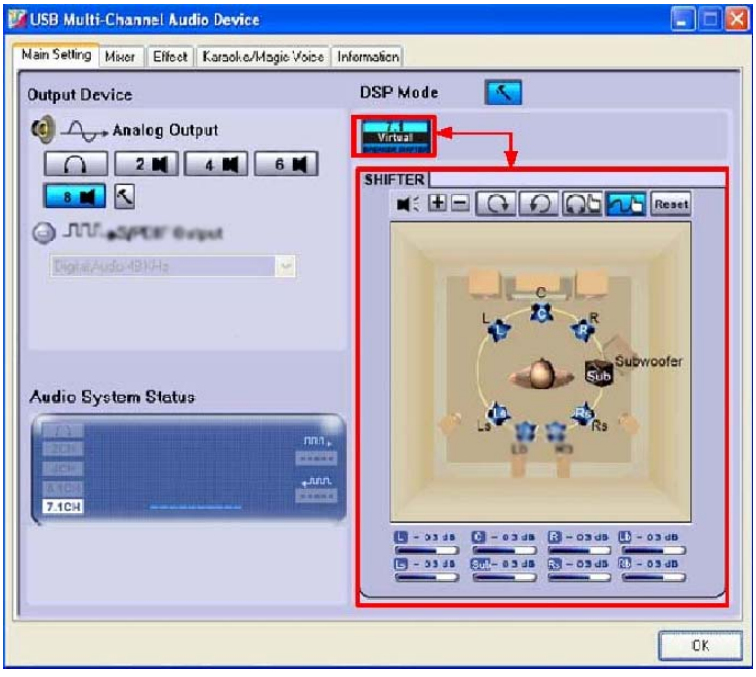


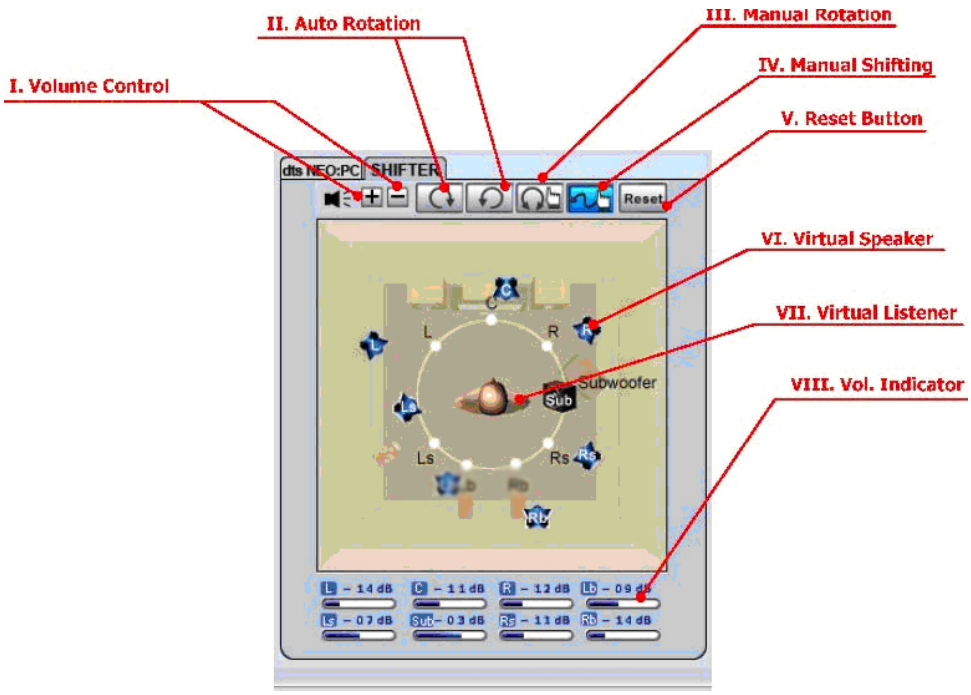
✧ When the DSP Mode is off ( ), the standard speaker test mode will be resumed.



1. C-Media 7.1 Virtual Speaker Shifter:

Click the “7.1 Virtual Speaker button” ( ) to enable the DSP Effect. When enabled, the icon will be displayed in the DSP Effect section to the right.

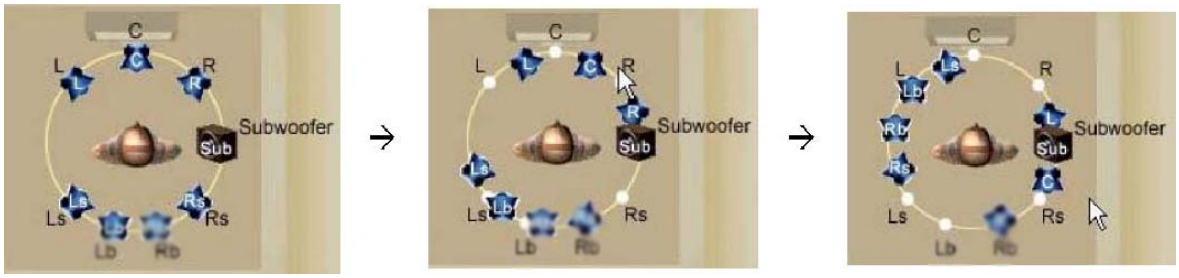




I. Volume Control:

Increase / decrease the volume of all channels by 1 dB for one step. (+4dB~-17dB)

II. Auto Rotation Mode: The virtual speakers rotate clockwise or counterclockwise slowly. For example, if clockwise is selected:



T=0 T=0.25 sec T= 1 sec

III. Manually Rotation Mode: Use mouse to rotate the virtual speakers on the screen manually.
IV. Manual Shifting (Free Moving Mode): Use pointer and click-and-drag to move the location of individual virtual speakers.
V. Reset: Reset the location of virtual speakers / virtual listener to default.

VI. Virtual Speaker: Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.

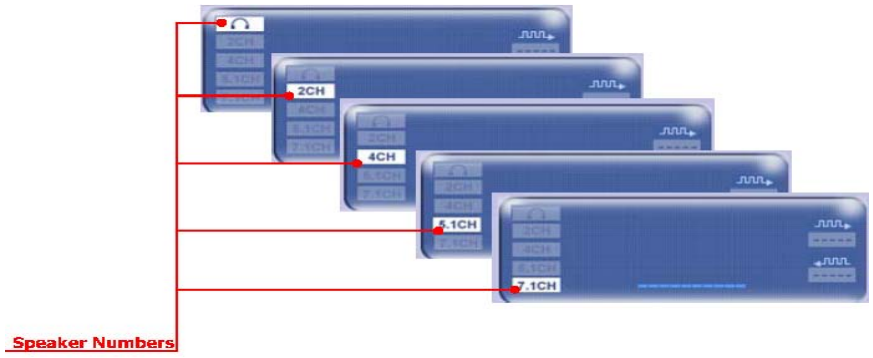
VII. Virtual Listener: The virtual listener virtualizes your position.

VIII. Volume indicator: Indicate value for each channel.

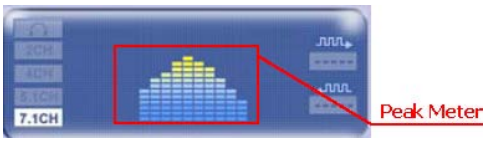
4.1.5 Audio System Status Panel

UDA-501 USB Multi-Channel Audio Device CPL provides a panel to indicate the Audio system status.

✧ Analog Speaker Number

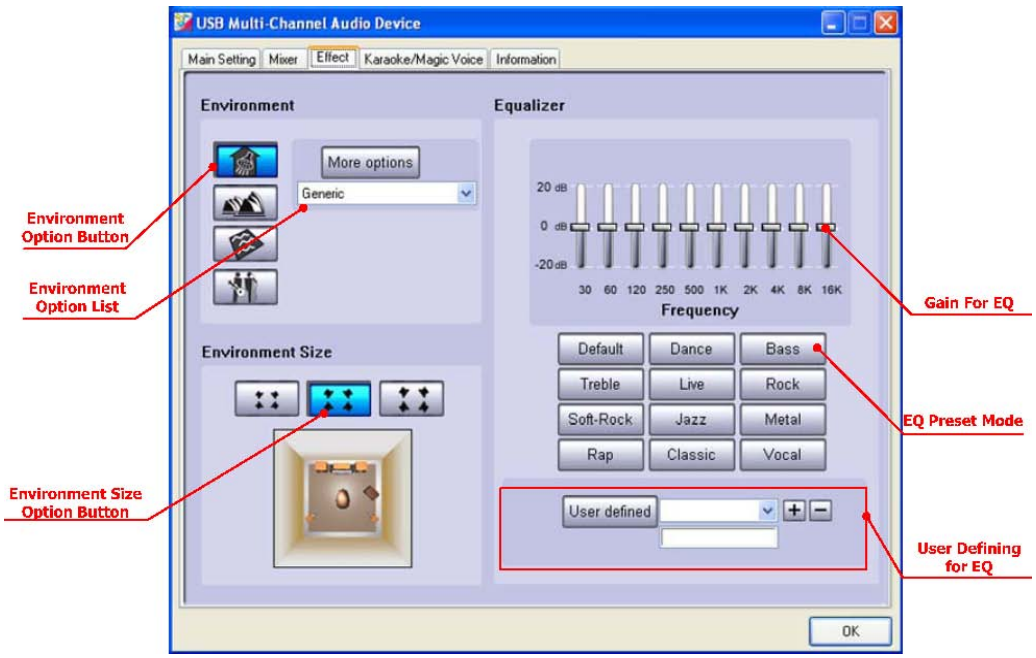


✧ Peak Meter



4.2 “Effect” Page Function Introduction

The features in this page provide various sound effects.



.

✧ Environment

Select an “Environment option button” or “Environment option List” for emulation that is implemented by producing the sound reflection and reverberation.

✧ Environment Size

You can change the “Environment Size Button” to simulate a larger or smaller space (Default is Medium). You feel the changes of space.

✧ Equalizer (EQ) 10-Band

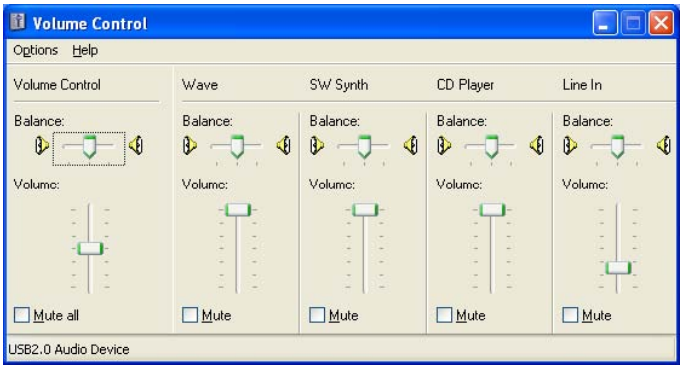
Select a pre-set mode for equalizer that is designed accordingly. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc. You can change the gain setting for each band and then give it a name in the following blank. Click “+” to add your new setting into the “User Defined” list. Click “-” to delete settings.

4.3 “Tray Icon” Function Introduction

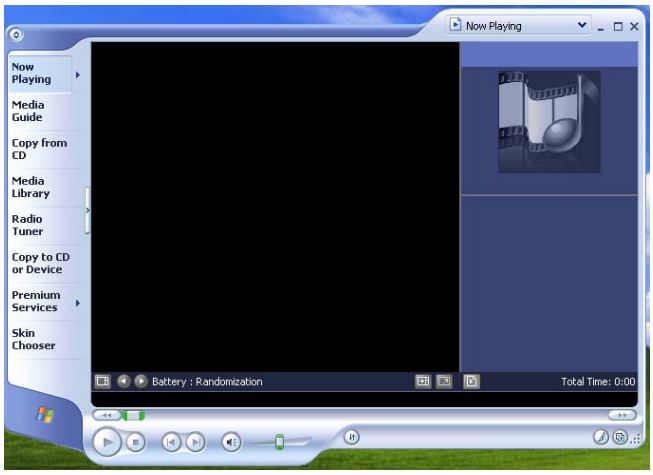
Open the “CPL Tray Icon Function List” by right-clicking on the tray Icon on system tray.

1. Open:
   When click the “Open” item, will restore the CM6620 USB 2.0 High-Speed True HD Audio Software CPL.

2. Volume Control:
   When click the “Volume Control” item, will open the Volume Control of Windows OS as below diagram.



3. Windows Media Player: When click the “Windows Media Player” item, will open the Microsoft Windows Media Player.



4. Multimedia Properties:
   Open the “Sounds and Audio Devices Properties” of Windows OS, you can set the advanced setting on this page.